

# **MAINVIEW<sup>®</sup> for Linux – Servers Customization Guide**

**Version 1.2**

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- read overviews about support services and programs that BMC Software offers
- find the most current information about BMC Software products
- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
- subscribe to receive e-mail notices when new product versions are released
- find worldwide BMC Software support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

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### Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that Customer Support can begin working on your problem immediately:

- product information
  - product name
  - product version (release number)
  - license number and password (trial or permanent)
- operating system and environment information
  - machine type
  - operating system type, version, and service pack or other maintenance level such as PUT or PTF
  - system hardware configuration
  - serial numbers
  - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
  - product error messages
  - messages from the operating system, such as `file system full`
  - messages from related software

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# About This Book

This book contains detailed information about MAINVIEW<sup>®</sup> for Linux – Servers and is intended for system programmers and other computer personnel.

This book provides the information you need to customize the MAINVIEW for Linux – Servers product. It assumes that you are familiar with the system, including its PROCLIB, APF-authorization procedures, and DASD requirements.

To use this book, you should be familiar with the following items:

- z/OS systems
- job control language (JCL)
- Interactive System Productivity Facility (ISPF)
- System Modification Program Extended (SMP/E)
- your client and host operating systems
- Linux systems
- z/VM systems

For example, you should know how to respond to ISPF panels.

## How This Book Is Organized

This book is organized as follows. In addition, an index appears at the end of the book.

Chapter/Appendix	Description
Chapter 1, "Installation Overview"	provides an overview of the installation process, describes the preparations you must make, and explains the information you need before you can begin installing MAINVIEW for Linux – Servers
Chapter 2, "Installation Preparation"	describes how to prepare to install MAINVIEW for Linux – Servers
Chapter 3, "Installation Customization"	describes how to customize the MAINVIEW for Linux – Servers SMP/E installation
Appendix A, "Adding New Linux Systems To Be Monitored"	describes how to add new Linux images to be monitored by MAINVIEW for Linux – Servers
Appendix B, "Managing the Components"	describes how to start and stop the MAINVIEW for Linux – Servers components

## Related Documentation

BMC Software products are supported by several types of documentation:

- online and printed books
- online Help
- release notes and other notices

In addition to this book and the online Help, you can find useful information in the publications listed in the following table. As "Online and Printed Books" on page 5 explains, these publications are available on request from BMC Software.

Category	Document	Description
installation documents	<i>OS/390 and z/OS Installer Guide and MAINVIEW Installation Requirements Guide</i> (formerly the <i>Product Installation and Maintenance Guide</i> )	provides information about product distribution, installation methods, installation requirements, creating product libraries with CPO or SMP, applying SMP maintenance, tape formats, FMIDs, and SYSMODs

Category	Document	Description
core documents	<i>Using MAINVIEW</i>	provides information about working with MAINVIEW products in windows mode and full-screen mode
	MAINVIEW for Linux – Servers User Guide	provides information about using MAINVIEW for Linux – Servers at your location
	<i>MAINVIEW Administration Guide</i>	provides information about MAINVIEW operations, targets, single-system image contexts, MAINVIEW Alarm Manager, data sets, view customization, and diagnostic facilities
	<i>MAINVIEW Alarm Manager User Guide</i>	explains how to create and install alarm definitions that indicate when exceptions occur in a sysplex
	<i>MAINVIEW Common Customization Guide</i>	provides instructions for manually customizing the MAINVIEW environment for your products
	<i>MAINVIEW Quick Reference</i>	introduces the MAINVIEW family of products and lists the commands used to manage the MAINVIEW windows environment
SAF security for MAINVIEW products	<i>Implementing Security for MAINVIEW Products</i>	explains basic MAINVIEW security, enhanced security, and MAINVIEW Alternate Access security
supplemental documents	release notes, flashes, technical bulletins	provide updated information about MAINVIEW for Linux – Servers

## Online and Printed Books

The books that accompany BMC Software products are available in online format and printed format. If you are a Windows or Linux user, you can view online books with Acrobat Reader from Adobe Systems. The reader is provided at no cost, as explained in “To Access Online Books.” You can also obtain additional printed books from BMC Software, as explained in “To Request Additional Printed Books.”

### To Access Online Books

Online books are formatted as Portable Document Format (PDF) files. You can view them, print them, or copy them to your computer by using Acrobat Reader 3.0 or later. You can access online books from the documentation compact disc (CD) that accompanies your product or from the World Wide Web.

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In some cases, installation of Acrobat Reader and downloading the online books is an optional part of the product-installation process. For information about downloading the free reader from the Web, go to the Adobe Systems site at <http://www.adobe.com>.

To view any online book that BMC Software offers, visit the support page of the BMC Software Web site at <http://www.bmc.com/support.html>. Log on and select a product to access the related documentation. (To log on, first-time users can request a user name and password by registering at the support page or by contacting a BMC Software sales representative.)

### **To Request Additional Printed Books**

BMC Software provides printed books with your product order. To request additional books, go to <http://www.bmc.com/support.html>.

## **Online Help**

The MAINVIEW for Linux – Servers product includes online Help. In the MAINVIEW for Linux – Servers ISPF interface, you can access Help by pressing **F1** from any ISPF panel.

## **Release Notes and Other Notices**

Printed release notes accompany each BMC Software product. Release notes provide current information such as

- updates to the installation instructions
- last-minute product information

In addition, BMC Software sometimes provides updated product information between releases (in the form of a flash or a technical bulletin, for example). The latest versions of the release notes and other notices are available on the Web at <http://www.bmc.com/support.html>.

## **Conventions**

This section provides examples of the conventions used in this book and explains how to read ISPF panel-flow diagrams and syntax statements.

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## General Conventions

This book uses the following general conventions:

Item	Example
information that you are instructed to type	Type <b>SEARCH DB</b> in the designated field. Type <b>search db</b> in the designated field. (Linux)
specific (standard) keyboard key names	Press <b>Enter</b> .
field names, text on a panel	Type <b>the appropriate entry</b> in the <b>Command</b> field.
directories, file names, Web addresses	The BMC Software home page is at <b>www.bmc.com</b> .
nonspecific key names, option names	Use the HELP function key.  KEEPDICTIONARY option
z/OS calls, commands, control statements, keywords, parameters, reserved words	Use the SEARCH command to find a particular object.  The product generates the SQL TABLE statement next.
Linux commands, command options, database names	Use the <b>sbacktrack</b> program to create a backup script. <b>Note:</b> Linux commands are case sensitive.
code examples, syntax statements, system messages, screen text	//STEPLIB DD  The table <i>table_name</i> is not available.
emphasized words, new terms, variables	The instructions that you give to the software are called <i>commands</i> .  In this message, the variable <i>file_name</i> represents the file that caused the error.
single-step procedures	» To enable incremental backups, type <b>y</b> and press <b>Enter</b> at the next prompt.

This book uses the following types of special text:

**Note:** Notes contain important information that you should consider.

**Warning!** Warnings alert you to situations that could cause problems, such as loss of data, if you do not follow instructions carefully.

**Tip:** Tips contain useful information that may improve product performance or that may make procedures easier to follow.

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## Syntax Statements

Syntax statements appear in Courier. The following example shows a sample syntax statement:

```
COMMAND KEYWORD1 [KEYWORD2|KEYWORD3] KEYWORD4={YES|NO}  
file_name...
```

The following table explains conventions for syntax statements and provides examples:

Item	Example
Items in italic type represent variables that you must replace with a name or value. Use an underscore for variables with more than one word.	<code>dtbackup control_directory</code>
Brackets indicate a group of options. You can choose at least one of the items in the group, but none of them is required. Do not type the brackets when you enter the option. A comma means that you can choose one or more of the listed options. You must use a comma to separate the options if you choose more than one option.  Linux options are indicated with a hyphen.	<code>[table_name, column_name, field]</code>  <code>[-full, -incremental, -level]</code>
Braces enclose a list of required items. You must enter at least one of the items. Do not type the braces when you enter the item.	<code>{DBD_name   table_name}</code>  <code>{-a   -c}</code>
A vertical bar means that you can choose only one of the listed items. In the example, you would choose either <i>commit</i> or <i>cancel</i> .	<code>{commit   cancel}</code>  <code>{-commit   -cancel}</code>
An ellipsis indicates that you can repeat the previous item or items as many times as necessary.	<code>column_name . . .</code>



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# Chapter 1      Installation Overview

This chapter provides an overview of the installation and customization processes for MAINVIEW for Linux – Servers.

This chapter discusses the following topics:

Introduction. . . . .	1-2	
Installation Checklist . . . . .	1-2	
Combining Checklists for Multiple Products. . . . .	1-2	
Products . . . . .	1-3	
Preparation Steps . . . . .	1-3	
Installation Steps . . . . .	1-4	
Customization Steps. . . . .	1-5	
Where To Go From Here . . . . .	1-6	

# Introduction

MAINVIEW for Linux – Servers uses the OS/390 and z/OS Installer. The installation checklist provides an outline of the installation process. It does not describe or contain every step of the process. The checklist contains generalized tasks and references to the appropriate book to perform each task.

## Installation Checklist

The installation checklist outlines the steps that you must perform to install and run your product (or products). The checklist summarizes what you must do and refers you to detailed instructions.

The checklist is divided into the following sections:

- “Preparation Steps” on page 1-3
- “Installation Steps” on page 1-4
- “Customization Steps” on page 1-5

When you have completed the installation, see “Where To Go From Here” on page 1-6.

## Combining Checklists for Multiple Products

The checklist is for the product (or products) that are listed in “Products” on page 1-3. You can use the Installation Checklist Generator to create a checklist that integrates the checklist in this book with checklists in other product books.

When you use the checklist generator, you select the products that you are going to install and the checklist generator produces an integrated checklist. The integrated checklist outlines all steps that you must complete for successful installation of all your products.

The checklist generator is available on your documentation CD. For information about running the checklist generator, see the *OS/390 and z/OS Installer Guide*.

**Note:** The Installation Checklist Generator runs only with Microsoft Internet Explorer version 4.01 or later. Future versions of the Installation Checklist Generator will support Netscape Navigator.

## Products

This checklist pertains to the following BMC Software products:

- MAINVIEW for Linux – Servers 1.2

## Preparation Steps

The following preparation steps help you prepare for installation of your products. The steps describe the tasks that you must complete and the items that you must assemble before you start installation.

✓	Step	Task	Description	Reference
	1	assemble needed materials	Gather all installation tapes, tape cover letters, product release notes, product technical bulletins, the <i>OS/390 and z/OS Installer Guide</i> , customization guides, planning guides, and so on.	your product shipment and support page on the BMC Software Web site at <a href="http://www.bmc.com/support.html">http://www.bmc.com/support.html</a> To log on, first-time users can request access by registering online; you can request temporary access from your BMC Software sales representative. On the support page, select a product to view the related documentation.
	2	review product release notes	The release notes describe enhancements, changes, and fixes for a product and contain important information you need to know.	your product shipment
	3	review technical bulletins and flashes	Technical bulletins and flashes contain information about problems that have been identified since the product was last released.	your product shipment or support page on the BMC Software Web site at <a href="http://www.bmc.com/support.html">http://www.bmc.com/support.html</a> To log on, first-time users can request access by registering online; you can request temporary access from your BMC Software sales representative. On the support page, select a product to view the related documentation.
	4	obtain product passwords	Contact BMC Software to obtain the passwords for your products.	<i>OS/390 and z/OS Installer Guide</i> , "BMC Software Product Authorization" appendix password request form or cover letter

✓	Step	Task	Description	Reference
	5	read prerequisites	Prerequisites state the operating system version requirements, space requirements, authorization requirements, and so on.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Prerequisites" on page 2-3 section
	6	read installation considerations	Installation considerations describe information about running with other products and product implementation.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Considerations" section
	7	obtain authorization to complete the installation	Reading the installation tapes or creating the installation data sets might require RACF authorization.	contact your system administrator
	8	obtain authorization to complete customization	Customization of some products might require APF authorization.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Preparation" chapter

## Installation Steps

The following installation steps help you run the BMC Software OS/390 and z/OS Installer to successfully complete installation for all of your OS/390 and z/OS BMC Software products. The installation system combines tape images, copies files to your system (Standard or SMP/E), creates installation JCL, and applies maintenance to installed products.

✓	Step	Task	Description	Reference
	1	understand the installation system	The installation system has features and functions that you should be familiar with before using it.	<i>OS/390 and z/OS Installer Guide</i> , "Introduction" chapter
	2	unload the base installation libraries from the installation tape	The base installation libraries contain the installation system.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter
	3	create the customized installation libraries	The customized installation libraries specify a site-specific installation environment.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter
	4	start the installation system	The installation system automates many installation steps.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter
	5	specify repository information	The repository profile contains installation and customization options that are used when performing subsequent installations.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter
	6	specify user options	The user options determine how the installation system runs and specify where installation JCL is stored.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter

✓	Step	Task	Description	Reference
	7	select the products to install	The installation system generates all the steps necessary for the products you want to install.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter
	8	run the JCL that was created by the installation system	The installation system presents installation JCL for your approval and helps you to run the JCL.	<i>OS/390 and z/OS Installer Guide</i> , "Running Installation JCL" chapter
	9	specify product authorization passwords	Permission to run your products is granted.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter

## Customization Steps

The following customization steps describe the tasks that you must complete to run your product (for some products, additional customization options might be available once the product is running). Some tasks might be performed by using the installation system, while other tasks might be performed by using a separate utility.

✓	Step	Task	Description	Reference
	1	choose the customization option in the installation system	Customization is started through the customization option in the installation system.	<i>OS/390 and z/OS Installer Guide</i> , "Using the Installation System" chapter
	2	create or update system objects, components, or resources	System objects, components, and resources include such items as sysplex or coupling facility, VTAM, TCP/IP, and LPARs.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	3	create or update subsystem objects, components, or resources	Subsystem objects, components, and resources include such items as DB2 plans, DB2 table spaces, and APPLIDs.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	4	allocate, create, or update data sets or files	Many products require specific data sets or files.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	5	set up data collectors	Many products use a data collector to store system data that they have collected.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	6	install or update the interface	Some products require customization of ISPF or require the use of an interface other than ISPF.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	7	create or update profiles or global parameters	Most products require profiles or parameters to be set or updated.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter

✓	Step	Task	Description	Reference
	8	create or update the initialization PROC, CLIST, REXX EXEC, or started task	Most products require a startup routine to run.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	9	define or update security	All products provide information for interfacing to RACF or other security products. Some products include their own security features in addition to or instead of RACF security.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	10	implement user exits	Some products provide user exits for interfacing with the product.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter
	11	perform additional customization tasks for your products	Some products require additional tasks to be performed before the products are completely installed.	<i>MAINVIEW for Linux – Servers Customization Guide</i> , "Installation Customization" chapter

## Where To Go From Here

When installation of your products is complete, refer to the following books:

Product	Book
MAINVIEW for Linux – Servers	<i>MAINVIEW for Linux – Servers User Guide</i>

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# Chapter 2    Installation Preparation

This chapter provides information on preparing to install MAINVIEW for Linux – Servers.

This chapter discusses the following topics:

Overview .....	2-2	
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Prerequisites .....	2-3	
System Software Requirements .....	2-3	
Authorization Requirements .....	2-4	
z/VM Requirements .....	2-4	
Product Authorization .....	2-4	

## Overview

Before you install MAINVIEW for Linux – Servers, you must gather specific information. This chapter describes the materials that can help you install and customize MAINVIEW for Linux – Servers.

## Required Materials

To prepare to install MAINVIEW for Linux – Servers, you should gather the following materials:

- installation tapes
- product documentation

Table 2-1 describes all of the product documentation necessary to install and customize MAINVIEW for Linux – Servers.

**Table 2-1**      **Installation and Customization Materials**

Material	Description
MAINVIEW for Linux – Servers cover letter	describes the documentation that is shipped with MAINVIEW for Linux – Servers
release notes, flashes, and technical bulletins	provide important product information and last minute information
<i>OS/390 and z/OS Installer Guide</i>	provides information about the OS/390 and z/OS installer
MAINVIEW Common Customization Guide	provides instructions for manually customizing the MAINVIEW environment for your products
MAINVIEW for Linux – Servers Customization Guide	provides instruction for manually customizing the MAINVIEW for Linux – Servers product



# Prerequisites

Make sure you meet the following prerequisites before installing the product.

## System Software Requirements

The requirements that are listed in Table 2-2 on page 2-3 and Table 2-3 include the operating system software needed for the installation and use of MAINVIEW for Linux – Servers.

**Table 2-2      MAINVIEW for Linux – Servers Requirements**

Product	Requirements
MAINVIEW for Linux – Servers (MAINVIEW Product Group 4)	IBM OS/390 versions 2.8, 2.9, or 2.10 or IBM z/OS
	MVI-4.0 or higher

**Table 2-3      Supported Linux Distributions**

Linux on Intel	Linux on S/390 or zSeries
Red Hat Linux 7.2 for Intel (2.4.7)	Red Hat Linux 7.2 for S/390 (2.4.9)
SuSE Linux 7.0 for Intel (2.2.16) <sup>a</sup>	SuSE Linux Enterprise Server for S/390 (2.2.16) <sup>a</sup>
SuSE 7.3 for Intel (2.4.10)	SuSE Linux Enterprise Server 7.0 for S/390 (2.4.7)

<sup>a</sup> IBM kernel patches for 2.2.16 are included in the code drop dated December 7, 2000. The code drop can be obtained from the IBM web site.

The following requirements are needed to view z/VM data with MAINVIEW for Linux – Servers:

- z/VM 4.2 or higher
- Real Time Monitor Function Level 4.1.0 (RTM)
- VMARC utility

**Note:** The VMARC utility is available for download from the IBM web site.

## Authorization Requirements

Table 2-4 lists the authorization requirements necessary to install MAINVIEW for Linux – Servers.

**Table 2-4 Authorization Requirements**

System	Requirement
load library on z/OS (OS/390) <ul style="list-style-type: none"><li>• <i>hilevel.BBLINK</i></li><li>• <i>hilevel.PGMLIB</i></li></ul>	APF Authorization
Linux	logged on as root
MMLPAS on z/OS (OS/390)	RACF OMVS TCP/IP access
RTSERVER on z/OS (OS/390)	

## z/VM Requirements

The following requirements are necessary to view z/VM data.

- RTM by IBM must be licensed from IBM and running in the z/VM system
- VM data server running on z/VM
- At least one Linux system running on z/VM and the Linux data server must be running on this Linux system

## Product Authorization

Before you can use MAINVIEW for Linux – Servers, you must perform product authorization. For more information about the BMC Software Product Authorization utility, see the *OS/390 and z/OS Installer Guide*.

---

## Chapter 3 Installation Customization

This describes how to customize MAINVIEW for Linux – Servers. This chapter discusses the following topics:

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AutoCustomization. . . . .	3-2
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Task 2—Executing Product-specific SHR Steps . . . . .	3-5
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## | Customizing MAINVIEW for Linux – Servers

You can customize MAINVIEW for Linux – Servers in one of the following ways:

- by using AutoCustomization
- by using manual customization

### **AutoCustomization**

AutoCustomization lets you perform the minimum steps that are required to make MAINVIEW for Linux – Servers operational.

You can customize MAINVIEW for Linux – Servers by completing the SHR and MML steps of AutoCustomization. The AutoCustomization SHR steps customize the MAINVIEW online environment. The AutoCustomization MML steps are the product-specific steps. When you invoke AutoCustomization and access the Product Customization Steps panel for MAINVIEW for Linux – Servers, the product customization steps are displayed. Figure 3-1 shows the Product Customization Steps panel that is displayed for MAINVIEW for Linux – Servers (MML).

If you need help with AutoCustomization, refer to the manual steps in this chapter. For detailed information about invoking and using AutoCustomization to customize your MAINVIEW environment, see the *OS/390 and z/OS Installer Guide*.

**Table 3-1 Summary of AutoCustomization Steps**

Task	Description
1	Execute the MAINVIEW SHR steps. For more information on executing the MAINVIEW SHR steps, see the <i>MAINVIEW Common Customization Guide</i> .
2	Execute the product-specific SHR steps. For more information on executing the product-specific SHR step, see “Task 2—Executing Product-specific SHR Steps” on page 3-5.
3	Execute the MML steps. For more information on executing the product-specific SHR step, see “Task 3—Executing MML Steps” on page 3-6.

**Figure 3-1 Sample Product Customization Steps Panel**

```

Valid line commands:                               Status (S)      Flag (F)
S - Select a step (Must be selected in sequence)  -----
B - Browse a step (No action is taken; step may   + completed   o optional
    be browsed out of sequence)                  - bypassed

Step S F Description                                Product
-----
 1 + Specify jobcards and other operational defaults      SHR
 2 + o Generate JCL to run Installation Verification Program  SHR
 3 - o Implement GDDM/PGF support                          SHR
 4 - o Implement Katakana terminal support                  SHR
 5 - Product Authorization                                SHR
 6 + Create site data sets for use with MainView products  SHR
 7 + Create site security data set for use with MainView products  SHR
 8 - o Add the BMC Software load library to your system APF list  SHR
 9 + o Add the BMC Software load library to your system link list  SHR
10 + Create CLIST for invoking MainView products          SHR
11 + Create the CAS (Coordinating Address Space) startup procedure  SHR
12 + Create Mainview Explorer Host Server startup procedure  SHR
13 + Create User Parameter Library                        SHR
14 + Create RTSERVER startup procedure                     SHR
15 - o Create RTLOCT startup procedure                     SHR
16 + Create MAINVIEW for Linux PAS (Product Address Space) SYSIN mbr  MML
17 + Allocate MAINVIEW for Linux PAS IMAGE data set        MML
18 + Allocate MAINVIEW for Linux PAS RULES data set        MML
19 + Allocate MAINVIEW for Linux PAS history data sets     MML
20 + Create MAINVIEW for Linux PAS startup procedure       MML
21 + Create MAINVIEW for Linux job to FTP RPMS files to Linux  MML
22 + Create MAINVIEW for Linux job to FTP files to VM       MML
***** Bottom of data *****

```

## Task 1—Executing MAINVIEW SHR Steps

---

To customize your MAINVIEW online environment using AutoCustomization, see the *MAINVIEW Common Customization Guide*.

**Note:** Because of the library allocations, the product-specific SHR steps (see “Task 2—Executing Product-specific SHR Steps” on page 3-5) and the MML steps (see “Task 3—Executing MML Steps” on page 3-6) cannot be performed until you have completed the customization for the MAINVIEW online environment.

## Task 2—Executing Product-specific SHR Steps

**Summary:** In this task you will execute the SHR steps that are only used by MAINVIEW for Linux – Servers customization.

### Before You Begin

Before you execute the MAINVIEW for Linux – Servers-specific SHR steps, you must complete the MAINVIEW common SHR steps. The MAINVIEW common SHR steps are described in the *MAINVIEW Common Customization Guide*.

**Note:** If you have not used AutoCustomization, or if you are unsure about a step, use the browse (B) line command to browse the step before selecting it. For more information about AutoCustomization, see the *MAINVIEW Common Customization Guide*.

Each MAINVIEW for Linux – Servers SHR step is described in Table 3-2. The panels for each step prompt you for specific customization information; Help is available when you press **F1**. For more information about each of the steps, see “Manual Customization” on page 3-6.

**Note:** MAINVIEW for Linux – Servers requires APF authorization. MAINVIEW for Linux – Servers requires RACF OMVS authorization for using TCP/IP. If you have an External Security Manager (ESM) other than RACF, consult the product documentation for information on this requirement.

**Table 3-2** SHR AutoCustomization Steps

Step	Description
create RTSERVER JCL startup procedure	(required) Lets you create and configure the RTSERVER JCL startup procedure.
create RTLOCT JCL startup procedure	Do not create the RTLOCT startup procedure for MAINVIEW for Linux – Servers customization. Select <b>No</b> in this AutoCustomization step.

**Note:** For communication server running on z/OS, you do not need to create the RTLOCT startup procedure.

## Task 3—Executing MML Steps

**Note:** If you have not used AutoCustomization, or if you are unsure about a step, use the browse (B) line command to browse the step before selecting it. For more information about AutoCustomization, see the *MAINVIEW Common Customization Guide*.

Each MML step is described in Table 3-3. The panels for each step prompt you for specific customization information; Help is available when you press **F1**. For more information about each MML step, see “Manual Customization” on page 3-6.

**Table 3-3** MML AutoCustomization Steps

Step	Description
create MAINVIEW for Linux – Servers Product Address Space (PAS) SYSIN member	(required) Lets you specify the SYSIN Member Name, PAS Subsystem ID, and the CAS Subsystem ID.
allocate MAINVIEW for Linux – Servers PAS image data set	(required) Lets you specify the data set name you wish to use to allocate the MAINVIEW for Linux – Servers PAS image data set.
allocate MAINVIEW for Linux – Servers rules data set	(required) Lets you specify the data set name you wish to use to allocate the MAINVIEW for Linux – Servers PAS rules data set.
allocate MAINVIEW for Linux – Servers history data sets	(required) Lets you specify the data set names you wish to use to allocate the MAINVIEW for Linux – Servers history data sets.
create the MAINVIEW for Linux – Servers PAS JCL startup procedure	(required) Lets you specify the data set name and password (if protected) of your system's procedure library, and the member name to use to save the PAS start-up procedure.
create a MAINVIEW for Linux – Servers job to FTP the Linux data server installation files to a Linux system	(required) Lets you specify the network host name, username, and password for the Linux system to which you want to FTP the MAINVIEW for Linux – Servers install package.
create a MAINVIEW for Linux – Servers job to FTP files to VM	(required) Lets you specify the network host name, username, and password for the host VM system to which you want to FTP the MAINVIEW for Linux – Servers install package.

## Manual Customization

Manual customization lets you customize MAINVIEW for Linux – Servers to best suit your needs. BMC Software provides AutoCustomization procedures that help you customize the environment automatically. This section describes the steps for customizing the environment manually.

Table 3-4 summarizes the manual customization process. The right column names the data set member containing the sample JCL that is included on the tape. These samples are in the *hilevel.BBPARM* and the *hilevel.BBSAMP* data sets on the tape.



**Table 3-4 Summary of Manual Customization Process**

<b>Task</b>	<b>Description</b>	<b>Data Set Member</b>	<b>Data Set</b>
1	customize the MAINVIEW online environment	N/A	N/A
2	create the RTSERVER JCL startup procedure	RTSRVJCL	BBSAMP
3	customize the RTSERVER command parameters member	RTSRVCM	STDCM
4	create the MAINVIEW for Linux – Servers PAS SYSIN data set	MMLPRM00	BBPARAM
5	create MAINVIEW for Linux – Servers PAS image data set	MMLIMG	BBSAMP
6	create MAINVIEW for Linux – Servers Rules data set	MMLRUL	BBSAMP
7	create the MAINVIEW for Linux – Servers history data set	MMLHST	BBSAMP
8	create the MAINVIEW for Linux – Servers PAS startup procedure	MMLPAS	BBSAMP
9	customize the MAINVIEW for Linux – Servers data server installation script	MMLDINST	BBSAMP
10	create MAINVIEW for Linux – Servers job to FTP Linux data server installation files to a Linux system	MMLFTP	BBSAMP
11	customize the MAINVIEW for Linux – Servers VM data server installation script	MMLVINST	BBSAMP
12	create MAINVIEW for Linux – Servers job to FTP VM installation files to the Linux system on which the VM data server runs	MMLFTPVM	BBSAMP

## Task 1—Customizing the MAINVIEW Online Environment

---

To perform manual customization of the MAINVIEW online environment, see the *MAINVIEW Common Customization Guide*.

**Note:** Because of library allocations, MAINVIEW for Linux – Servers manual customization cannot be performed until you have completed manual customization for the MAINVIEW online environment. Instructions for manually customizing the MAINVIEW online environment are provided in the *MAINVIEW Common Customization Guide*.

---

## Task 2—Creating the RTServer JCL Startup Procedure

---

**Summary:** In this task you will create the RTServer startup procedure. The RTServer is the communication server for MAINVIEW for Linux – Servers. The RTServer startup procedure creates the startup task for the communication server for MAINVIEW for Linux – Servers

---

### Before You Begin

A sample RTServer JCL startup procedure is provided with the distribution tape in member *hilevel.BBSAMP(RTSRVJCL)*.

**Note:** RTServer program libraries require APF authorization. RTServer started task requires RACF OMVS authorization for using TCP/IP. If you have an External Security Manager (ESM) other than RACF, consult the product documentation for information on this requirement.

### Creating the RTserver JCL Startup Procedure

To create the RTserver JCL startup procedure, complete the following steps:

**Step 1** Select *hilevel.BBSAMP* member RTSRVJCL.

A sample of the member is shown in Figure 3-2 on page 3-10.

**Figure 3-2 Sample BBSAMP Member RTSRVJCL**

```

/*-----
/*
/*  Change Log:
/*
/*      Created by ?USER on ?DATE at ?TIME
/*  BPN0125 Add RTTIMESTAMPOUTPUT parm to put time on messages      JMW
/*
/*-----
//RTSERVER PROC HLQ='?BBCHILV',
//      PRM=' ',
//      ENV='?RTHOME=?RTHOME'
/*
/* Note: "stderr" in the PARM statement below must be in lower case
/*
//RTSERVER EXEC PGM=RTSERVER,TIME=1440,REGION=0M,
//  PARM='&PRM &ENV =RTTIMESTAMPOUTPUT=1 =RTDEBUGFILENAME=stderr'
/*
//STEPLIB DD DISP=SHR,DSN=&HLQ..PGMLIB
//      DD DISP=SHR,DSN=&HLQ..BBLINK
//RTSLIB DD DISP=SHR,DSN=&HLQ..PGMLIB
//MSGFILE DD DISP=SHR,DSN=&HLQ..STDTEXT(MESSAGE)
/*
//SYSTEM DD SYSOUT=*,DCB=(RECFM=VBA,LRECL=137)
//SYSPRINT DD SYSOUT=*,DCB=(RECFM=VBA,LRECL=137)
//STDOUT DD SYSOUT=*,DCB=(RECFM=VBA,LRECL=137)
//STDERR DD SYSOUT=*,DCB=(RECFM=VBA,LRECL=137)
//SRVOUT DD SYSOUT=*,DCB=(RECFM=VBA,LRECL=137)
//RTSERVER DD SYSOUT=*,DCB=(RECFM=VBA,LRECL=137)
***** Bottom of Data *****

```

**Step 2** Copy the member to *hilevel.UBBSAMP*.

**Step 3** Change ?BBCHILV to the high-level qualifier of the product libraries.

**Step 4** Change ?RTHOME to a high-level qualifier, such as MVLNX.RTHOME (*rthome*).

**Note:** The ?RTHOME high-level qualifier can be a maximum of two levels. The communication server uses this high-level qualifier to find the run-time data sets.

**Step 5** Allocate two new data sets at the *rthome* high-level qualifier:

- *rthome.STANDARD.CM*
- *rthome.STANDARD.TXT*

**Step 6** Copy all members from *hilevel.STDCM* to *rthome.STANDARD.CM*.

**Step 7** Copy all members from *hilevel.STDTEXT* to *rthome.STANDARD.TXT*.

**Step 8** In *hilevel.STANDARD.CM*, rename RTSRVCM member to RTSERVER.

**Step 9** Copy *hilevel.UBBSAMP* member RTSRVJCL to your system procedure library as member RTSERVER.

**Step 10** Edit the *rthome.STANDARD.CM* data set TCPNAME member to contain the name of the TCP/IP address space.

- Step 11** Copy *hilevel*.UBBSAMP data set member RTSRVJCL to your system procedure library as RTSERVER.
- Step 12** To start the procedure automatically when you IPL the system, add the RTSERVER procedure to your system startup parameter library, for example, SYS1.PARMLIB(COMMNDxx).

## Task 3—Customizing the RTServer Command Parameters Member

**Summary:** The RTServer is the communication server for MAINVIEW for Linux – Servers. This task is only required if port 5101 is in use, and you must specify an unused port number.

### Before You Begin

A sample RTServer command parameters member is provided with the distribution tape in member *hilevel.STDCM* (RTSRVCM).

**Note:** RTServer program libraries require APF authorization. RTServer started task requires RACF OMVS authorization for using TCP/IP. If you have an External Security Manager (ESM) other than RACF, consult the product documentation for information on this requirement.

**Step 1** Select *rthome.STANDARD.CM* member RTSERVER.

A sample of the member is shown in Figure 3-3.

**Figure 3-3 Sample STANDARD.CM Member RTSERVER**

```
***** Top of Data *****
setopt default_protocols tcp
setopt conn_names      tcp
setopt server_names     UNKNOWN
setopt max_client_conns 512
setopt conn_names tcp:_node:5101
***** Bottom of Data *****
```

**Step 2** Change 5101 to a port number that is not in use.

**Step 3** Save the member.

## Task 4—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) SYSIN Member

**Summary:** In this task, you will provide the PAS startup parameters.

To customize MAINVIEW for Linux – Servers, you must specify the following information:

- network host name of the communication server (RTServer)
- port number of the communication server
- CAS subsystem ID
- PAS subsystem ID
- member name of the of the UBBPARM data set where this information will be saved

Table 3-5 describes the parameters for the information that you must provide.

**Table 3-5 PAS SYSIN Parameters (Part 1 of 2)**

Parameter Keyword	Description	Parameter Values	Default
SUBSYSID	PAS subsystem ID	4-character (alphanumeric) This value must be unique, cannot be the same as the CAS.	MMLO
SUBSTR	specifies how to derive the image name from the host name The host name can be many characters in length, but the image name is restricted to only 8 characters. This parameter specifies how the image name is derived from the host name.	1st position numeric value of 1–60 that indicates where to start scanning in the host name	(1,8,B)
		2nd position numeric value of 1–8 that indicates the length of the image target name	
		3rd position B indicates start scanning from the beginning of the host name E indicates start scanning from the end of the host name	
COMMHST	network host name that is running the communication server (RTServer)	host name or IP address	N/A

**Table 3-5 PAS SYSIN Parameters (Part 2 of 2)**

Parameter Keyword	Description	Parameter Values	Default
COMMPORT	network port number on which the communication server is listening	any unused port number	5101
SSID	CAS Subsystem ID	4-character (alphanumeric) This value must be unique, cannot be same as PAS.	BBCS
LOGLEVEL	level of PAS communication subtask information logging	100 provides severe messages	200
		200 provides error and severe messages	
		300 provides warning, error, and severe messages	
		400 provides informational, warning, error, and severe messages	
MXCMMWT	maximum amount of delay time when refreshing a view	numeric value (in milliseconds)	1000

To create the MAINVIEW for Linux – Servers PAS SYSIN member, complete the following steps:

**Step 1** Select *hilevel.BBPARM* member MMLPRM00.

A sample of the member is shown in Figure 3-10 on page 3-23.



**Figure 3-4      Sample BBPARM Member MMLPRM00**

```
*-----*
*
*   Change Log:
*
*           Created by ?USER on ?DATE at ?TIME
*
*-----*
SUBSYSID=?PASSSID,           PAS subsystem name (default=MML0)
SUBSTR=(1,8,B),              How to form image names from host names
COMMHOST=?HOST,              Communication Server port number
COMMPORT=?PORT,              CAS subsystem id to connect to
SSID=?BBCS,                  Communication sub-task logging level
LOGLEVEL=400,                Communication sub-task max wait (ms)
MXCOMMWT=1000,               End configuration parameters
END
***** Bottom of Data *****
```

**Step 2**      Copy the member to *hilevel.UBBPARM*.

**Step 3**      Verify that SUBSTR=(1,8,B) will work in your environment.

The SUBSTR parameter identifies how you want to specify your image names. The host names can be many characters in length; however the image names are limited to 8 characters. You can specify the image name starting from any character in the character string. The default, (1,8,B), should work in most environments; however, if you have a naming convention where the unique characters are at the end of the character string, and the character string is longer than 8 characters, you may want to specify the last characters as the image name.

For example, your environment could have the following Linux host names:

- ABCCOMPANYLINUX010
- ABCCOMPANYLINUX123
- ABCCOMPANYLINUX965

Table 3-6 describes some of the different image name that are possible if you have a host name of ABCCOMPANYLINUX010.

**Table 3-6      SUBSTR Parameter Examples**

Host Name	SUBSTR=	Image Name
ABCCOMPANYLINUX010	(1,8,B)	ABCCOMPA
ABCCOMPANYLINUX010	(6,4,E)	INUX0
ABCCOMPANYLINUX010	(1,8,E)	LINUX010
ABCCOMPANYLINUX010	(9,8,B)	NYLINUX0

**Step 4**      Change ?PASSSID to the PAS subsystem ID (MML0).

**Step 5**      Change ?HOST to the host name or IP address of the system running the communication server.

If you are running the communication server and the MAINVIEW for Linux – Servers PAS on the same host, you can change ?HOST to localhost or 127.0.0.1.

**Step 6** Change ?PORT to 5101 (the port number of the communication server).

**Note:** This port number must match the port number specified in “Task 9—Customizing the MAINVIEW for Linux – Servers Data Server Installation Script” on page 3-26 and “Task 11—Customizing the MAINVIEW for Linux – Servers VM Data Server Installation Script” on page 3-30.

**Note:** If port 5101 is in use, specify an unused port number.

**Step 7** Change ?BBCS to the CAS subsystem ID (default=BBCS).

## Task 5—Allocating the MAINVIEW for Linux – Servers Image Data Set

**Summary:** In this task, you will allocate the MAINVIEW for Linux – Servers image data set. This data set contains information about automatically discovered Linux systems.

To allocate the MAINVIEW for Linux – Servers image data set, complete the following steps:

**Step 1** Select *hilevel.BBSAMP* member MMLIMG.

A sample of the member is shown in Figure 3-5.

**Figure 3-5 Sample BBSAMP Member MMLIMG**

```

/*-----
/*
/*  Change log:
/*
/*      Created by ?USER on ?DATE at ?TIME
/*
/*-----
//IEFBR14 EXEC PGM=IEFBR14
//DELETE DD DISP=(MOD,DELETE),
//          DSN=?BBCHILV.MML.?PASSSID.IMAGE,
//          SPACE=(TRK,0)
/*-----
/* Write a single blank line to the dataset
/*-----
//IEBGENER EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=*
//SYSUT2 DD DISP=(NEW,CATLG),
//          DSN=?BBCHILV.MML.?PASSSID.IMAGE,
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120,DSORG=PS),
//          UNIT=SYSDA,SPACE=(TRK,(2,1)),VOL=SER=?BBVOL
//SYSIN DD *
//          GENERATE MAXFLDS=2
//          RECORD FIELD=(40,1,,1),FIELD=(40,1,,41)
//SYSUT1 DD *
/*
***** Bottom of Data *****

```

**Step 2** Copy the member to *hilevel.UBBSAMP*.

**Step 3** Edit the JOB statement to specify the appropriate system parameters.

**Step 4** Change ?BBCHILV to the high-level qualifier of the product libraries.

**Step 5** Change ?PASSSID to the PAS subsystem ID (MML0).

**Step 6**     Change ?BBVOL to a specific DASD volume.

**Note:**    If you do not want the DASD to run on a specific volume, you can remove the VOL=SER=?BBVOL statement.

|            **Step 7**     Submit the JCL to run the job and allocate the data sets.

## Task 6—Allocating the MAINVIEW for Linux – Servers Rules Data Set

**Summary:** In this task, you will allocate the MAINVIEW for Linux – Servers monitor rules data set.

**Step 1** Select *hilevel.BBSAMP* member MMLRUL.

A sample of the member is shown in Figure 3-6.

**Figure 3-6 Sample BBSAMP Member MMLRUL**

```

/*-----
/*
/*  Change log:
/*
/*      Created by ?USER on ?DATE at ?TIME
/*
/*-----
//IEFBR14 EXEC PGM=IEFBR14
//DELETE DD DISP=(MOD,DELETE),DSN=?BBCHILV.MML.DATA,
//          SPACE=(TRK,0)
/*-----
//ALLOCD5 EXEC PGM=IEFBR14
//SYSUT2 DD DISP=(NEW,CATLG),DSN=?BBCHILV.MML.DATA,
//          DCB=(RECFM=FB,LRECL=512,BLKSIZE=30720,DSORG=PO),
//          UNIT=SYSDA,SPACE=(TRK,(5,1,5)),VOL=SER=?BBVOL
/*
***** Bottom of Data *****

```

**Step 2** Copy the member to *hilevel.UBBSAMP*.

**Step 3** Edit the JOB statement to specify the appropriate system parameters.

**Step 4** Change ?BBCHILV to the high-level qualifier of the product libraries.

**Step 5** Change ?BBVOL to a specific DASD volume.

**Note:** If you do not want the DASD to run on a specific volume, you can remove the VOL=SER=?BBVOL statement.

**Step 6** Submit the JCL to run the job and allocate the data set.

## Task 7—Allocating the MAINVIEW for Linux – Servers History Data Set

**Summary:** In this task, you will create the data set that contains the output from the historical data recorder.

To create the history data set, complete the following steps:

**Step 1** Select *hilevel*.BBSAMP member MMLHST.

A sample of the member is shown in Figure 3-7 and Figure 3-8 on page 3-21.

**Figure 3-7 Sample BBSAMP Member MMLHST (Part 1 of 2)**

```
//*-----
//*
//*  Change log:
//*
//*      Created by ?USER on ?DATE at ?TIME
//*-----
//DELETE  EXEC  PGM=IDCAMS,REGION=4M
//SYSPRINT DD  SYSOUT=*
//SYSIN   DD  *
DELETE    ?MMLVHLQ.?MMLPASID.HISTDS00 -
          PURGE
DELETE    ?MMLVHLQ.?MMLPASID.HISTDS01 -
          PURGE
DELETE    ?MMLVHLQ.?MMLPASID.HISTDS02 -
          PURGE
SET  MAXCC=0
```

**Figure 3-8 Sample BBSAMP Member MMLHST (Part 2 of 2)**

```

/*
/*
//DEFINE EXEC PGM=IDCAMS,REGION=4M
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
    DEFINE CLUSTER (NAME(?MMLVHLQ.?MMLPASID.HISTDS00) -
        RECORDSIZE(4200 32000) -
        VOLUMES(?VOLUME) -
        KEYS(28 24) -
        SHR(3,3) -
        REUSE) -
        DATA
            (NAME(?MMLVHLQ.?MMLPASID.HISTDS00.DATA) -
            CYLINDERS(?CYL)) -
        INDEX
            (NAME(?MMLVHLQ.?MMLPASID.HISTDS00.INDX) -
            CISZ(4096) -
            CYLINDERS(1))

    DEFINE CLUSTER (NAME(?MMLVHLQ.?MMLPASID.HISTDS01) -
        RECORDSIZE(4200 32000) -
        VOLUMES(?VOLUME) -
        KEYS(28 24) -
        SHR(3,3) -
        REUSE) -
        DATA
            (NAME(?MMLVHLQ.?MMLPASID.HISTDS01.DATA) -
            CYLINDERS(?CYL)) -
        INDEX
            (NAME(?MMLVHLQ.?MMLPASID.HISTDS01.INDX) -
            CISZ(4096) -
            CYLINDERS(1))

/*
/*
//SEED EXEC PGM=IDCAMS,REGION=4M
//SYSPRINT DD SYSOUT=*
//IN DD DISP=SHR,DSN=?BBCHILV.BBILIB(@@YZZ052)
//SYSIN DD *
    REPRO INFILE (IN) -
        OUTDATASET(?MMLVHLQ.?MMLPASID.HISTDS00)
    REPRO INFILE (IN) -
        OUTDATASET(?MMLVHLQ.?MMLPASID.HISTDS01)
    REPRO INFILE (IN) -
        OUTDATASET(?MMLVHLQ.?MMLPASID.HISTDS02)

/*
//
***** Bottom of Data *****

```

**Step 2** Copy the member to *hilevel.UBBSAMP*.

**Step 3** Edit the JOB statement to specify the appropriate system parameters.

**Step 4** Change ?MMLVHLQ to the high-level qualifier of the VSAM data sets you create for MAINVIEW for Linux – Servers.

**Note:** You can make ?MMLVHLQ the same value as ?BBCHILV.

**Step 5** Change ?MMLPASID to the name of the PAS subsystem ID that was created in a previous task. See “Task 4—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) SYSIN Member” on page 3-13 for more information.

**Step 6** Submit the JCL to run the job and allocate the data set.

## History Interval

If you have allocated the historical data sets, historical reporting begins as soon as the PAS is initialized. Data is recorded at the interval that is specified in the *hilevel*.BBPARM data set member MMLTIR00. The default length of the recording interval is 15 minutes.

Intervals are usually synchronized on the hour (SYNCVAL=0). For example, if the interval value (INTVAL) is specified as 15 minutes and extraction begins at 09:49 a.m., the first interval lasts 11 minutes until 10:00 a.m. Successive intervals are 10:00 to 10:15, 10:15 to 10:30, and so on.

A sample of the MMLTIR00 is shown in

**Figure 3-9      Sample BBPARM Member MMLTIR00**

---

```
<INTERVAL INTVAL="15" SYNCVAL="0" />
```

---



## Task 8—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) JCL Startup Procedure

**Summary:** In this task, you will create the MAINVIEW for Linux – Servers PAS startup procedure.

To run the MAINVIEW for Linux – Servers PAS, you must create a procedure in your system procedure library.

**Note:** The PAS program library requires APF authorization. The PAS started task requires RACF OMVS authorization for using TCP/IP. If you have an External Security Manager (ESM) other than RACF, consult the product documentation for information on this requirement.

To customize the MAINVIEW for Linux – Servers PAS JCL startup procedure, complete the following steps:

**Step 1** Select *hilevel.BBSAMP* member *MMLPAS*. A sample of the member is shown in Figure 3-10 and Figure 3-11 on page 3-24.

**Figure 3-10 Sample BBSAMP Member MMLPAS (Part 1 of 2)**

```
//*-----
//*
//*  Change Log:
//*
//*      Created by ?USER on ?DATE at ?TIME
//*
//*-----
//*
//*  Note: Any region size greater than 16MB and less than
//*        32MB, causes MVS to make available all storage below
//*        the 16MB line and 32MB of storage (the IBM default)
//*        above the line.
//*
//*-----
//MMLPAS  PROC REG=46,
//          BBCHILV='?BBCHILV',
//          BBLINK='?BBLINK',
//          UBBPARM='?UBBPARM',
//          PASID='?MMLPASID',
//          MMLSYSIN='?MMLPRM',
//          MMLIMAGE='?MMLIMG',
//          MMLRULES='?MMLRUL',
//          MMLVHLQ='?MMLVHLQ'
//*-----
```

**Figure 3-11 Sample BBSAMP Member MMLPAS (Part 2 of 2)**


---

```

//MML9DSP4 EXEC PGM=MML9DSP4,REGION=&REG.M
/**
//STEPLIB DD DISP=SHR,DSN=&BBLINK
//BBLINK DD DISP=SHR,DSN=&BBLINK
/**
/** Action definition tables.
/**
//BBACTDEF DD DISP=SHR,DSN=&BBCHILV..BBACTDEF
/**
/** View definitions.
/**
//BBVDEF DD DISP=SHR,DSN=&BBCHILV..BBVDEF
/**
/** Parameter definitions.
/**
//BBIPARM DD DISP=SHR,DSN=&UBBPARM
// DD DISP=SHR,DSN=&BBCHILV..BBIPARM
/**
/** Customized security definitions.
/**
//BBSECURE DD DISP=SHR,DSN=&BBCHILV..BBSECURE
/**
/** History file definitions (need unique DSNames per PAS)
/** &PASID can be the same value used for SUBSYSID= in SYSIN.
/**
//HISTDS00 DD DISP=SHR,DSN=&MMLVHLQ..&PASID..HISTDS00
//HISTDS01 DD DISP=SHR,DSN=&MMLVHLQ..&PASID..HISTDS01
//HISTDS02 DD DISP=SHR,DSN=&MMLVHLQ..&PASID..HISTDS02
/**
/** Product license password.
/**
//BMCPSWD DD DISP=SHR,DSN=&BBCHILV..BMCPSWD
/**
/** Product input parameters.
/**
//SYSIN DD DISP=SHR,DSN=&UBBPARM(&MMLSYSIN)
/**
/** Automatically discovered systems
/**
//MMLIMAGE DD DISP=SHR,DSN=&MMLIMAGE
/**
/** Monitor rules.
/**
//MMLDATA DD DISP=SHR,DSN=&MMLRULES
/**
/** Communication Sub-task message log
/**
//MMLERRLG DD SYSOUT=*
/**
/** History Sub-task message log
/**
//MMLHERLG DD SYSOUT=*
/**
//SYSUDUMP DD SYSOUT=*
//SYSTEM DD SYSOUT=*
//STDOUT DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
***** Bottom of Data *****

```

---

- Step 2** Copy the member to *hilevel.UBBSAMP*.
- Step 3** Change ?BBCHILV to the high-level qualifier of the MAINVIEW for Linux – Servers product libraries.
- Step 4** Change ?UBBPARM to data set name *hilevel.UBBPARM* (see Step 2 of “Task 4—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) SYSIN Member” on page 3-13).

- Step 5** Change ?BBLINK to *hilevel.BBLINK*.
- Step 6** Change ?MMLPRM to MMLPRM00, (see Step 2 of “Task 4—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) SYSIN Member” on page 3-13).
- Step 7** Change ?MMLIMG to the image data set name that you allocated in a previous task. See “Task 5—Allocating the MAINVIEW for Linux – Servers Image Data Set” on page 3-17 (*hilevel.MML.passsid.IMAGE*) for more information.
- Step 8** Change ?MMLRULE to the rules data set name that you allocated in “Task 6—Allocating the MAINVIEW for Linux – Servers Rules Data Set” on page 3-19 (*hilevel.MML.DATA*).
- Step 9** Change ?MMLVHLQ to the high-level qualifier of the VSAM data sets you create for MAINVIEW for Linux – Servers (see “Task 7—Allocating the MAINVIEW for Linux – Servers History Data Set” on page 3-20).
- Note:** You can make ?MMLVHLQ the same value as ?BBCHILV.
- Step 10** Copy the MMLPAS member to your system procedure library.
- Step 11** To start the procedure automatically when you IPL the system, add the MMLPAS procedure to your system startup parameter library, for example, SYS1.PARMLIB(COMMNDxx).

## Task 9—Customizing the MAINVIEW for Linux – Servers Data Server Installation Script

**Summary:** In this task, you will customize the MAINVIEW for Linux – Servers data server installation script that runs on a Linux system.

To customize the MAINVIEW for Linux – Servers data server installation script:

**Step 1** Select *hilevel.BBSAMP* member MMLDINST.

A sample of the member is shown in Figure 3-13.

**Figure 3-12 Sample BBSAMP Member MMLDINST**

```
000017 #-----
000018 #
000019 #   Change Log:
000020 #
000021 #       Created by ?USER on ?DATE at ?TIME
000022 #
000023 #-----
000024 RTSERVHOST=?COMMHOST
000025 RTSERVPOR=?COMMPOR
000026 DATASRVUSER=?RUNUSER
000027 INSTSTART=?STRTINST
000028 #
000029 #-----
000030 # Do not change anything below this comment block.
000031 #-----
```

**Step 2** Copy the member to *hilevel.UBBSAMP*.

**Step 3** Change ?COMMHOST to the communication server (RTServer) host name.

**Step 4** Change ?COMMPOR to the communication server port number (default=5101).

**Note:** This must match the port number specified in “Task 4—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) SYSIN Member” on page 3-13 and “Task 11—Customizing the MAINVIEW for Linux – Servers VM Data Server Installation Script” on page 3-30.

**Note:** If port 5101 is in use, specify an unused port number.

**Step 5** Change ?RUNUSER to a specific user name, such as root.

**Note:** You can remove the DATASERVER=?RUNUSER statement if you do not want to identify a specific user name. The Linux data server will run as root.

**Step 6** Change ?STRINST to **Yes** to start the Linux data server automatically after completing the installation.

**Note:** If you select **No**, do not start the Linux data server automatically, you must manually start the data server after completing the installation. To manually start the data server, see Appendix B, “Managing the Components.” The data server will still start automatically when the Linux system is started.

## Task 10—Creating a Job to FTP the Data Server Installation Files to a Linux System

**Summary:** In this task, you will FTP the Linux data server installation files to a Linux system.

To FTP the files to a Linux system, complete the following steps:

**Step 1** Select *hilevel*.BBSAMP member MMLFTP.

A sample of the member is shown in Figure 3-13.

**Figure 3-13 Sample BBSAMP Member MMLFTP**

```

/*-----
/*
/*  Change log:
/*
/*      Created by ?USER on ?DATE at ?TIME
/*
/*-----
//STEP1    EXEC PGM=FTP,PARM='(EXIT',REGION=2048K
//SYSPRINT DD SYSOUT=*
//OUTPUT   DD SYSOUT=*
//INPUT    DD *
?RMTHOST
?USERNAME
?PASSWORD
TYPE A
cd /tmp
LCD '?BBCHILV.UBBSAMP'
PUT MMLDINST mmlldinst
SITE chmod 755 mmlldinst
TYPE I
LCD '?BBCHILV.RPMS'
?PUTLIST
QUIT
/*
***** Bottom of Data *****

```

**Step 2** Copy the member to *hilevel*.UBBSAMP.

**Step 3** Change ?BBCHILV to the high-level qualifier of the product libraries.

**Step 4** Change ?RMTHOST to the host name of the Linux system where you will install the Linux data server.

**Step 5** Change ?USERNAME to a valid logon ID of the Linux system.

**Step 6** Change ?PASSWORD to the password of the logon ID that you entered in Step 5.

**Step 7** Change ?PUTLIST to a list of PUT commands to transfer the Linux data server RPM to the target Linux system. The following two commands are needed:

- PUT command for the RPM file
- SITE command to set the correct Linux permissions on the file

**Example**

```
PUT member_name
```

```
SITE chmod 644 member_name
```

Table 3-7 shows the specific member name for each supported Linux distribution.

**Table 3-7 Specific Member Names for Supported Linux Distributions**

Member Name	Distribution
MMLUDZS0	SuSE Linux Enterprise Server for S/390 (2.2.16)
MMLUDZS2	SuSE Linux Enterprise Server 7.0 for S/390 and zSeries (2.4.7)
MMLUDZR2	Red Hat Linux 7.2 for S/390 (2.4.9)
MMLUDIS0	SuSE Linux 7.0 for Intel (2.2.16)
MMLUDIS3	SuSE 7.3 for Intel (2.4.10)
MMLUDIR2	Red Hat Linux 7.2 for Intel (2.4.7)

**Step 8** Submit the JCL to run the job and FTP the files to the Linux system.

**Step 9** Repeat Step 4 through Step 8 to send the files to other Linux systems (if necessary). For more information, see “Installing the Linux Data Server on a Linux System” on page 3-33.

## Task 11—Customizing the MAINVIEW for Linux – Servers VM Data Server Installation Script

**Summary:** In this task, you will customize the MAINVIEW for Linux – Servers VM data server installation script that runs on the VM data server userid (MMLVSRV). MMLVSRV is the default VM data server userid

To customize the MAINVIEW for Linux – Servers VM data server installation script:

**Step 1** Select *hilevel.BBSAMP* member MMLVINST.

A sample of the member is shown in Figure 3-14.

**Figure 3-14 Sample BBSAMP Member MMLVINST**

```
-----
Change Log:

      Created by ?USER on ?DATE at ?TIME

-----
RTSERVHOST=?COMMHOST
RTSERVPORT=?COMMPORT
RTMID=?RTMVM
INSTSTART=?STRTINST
-----
Do not change anything below this comment block.
-----
```

**Step 2** Copy the member to *hilevel.UBBSAMP*.

**Step 3** Change ?COMMHOST to the communication server (RTServer) host name.

**Step 4** Change ?COMMPORT to the communication server port number (default=5101).

**Note:** This port number must match the port number specified in “Task 4—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) SYSIN Member” on page 3-13 and “Task 9—Customizing the MAINVIEW for Linux – Servers Data Server Installation Script” on page 3-26.

**Note:** If port 5101 is in use, specify an unused port number.

**Step 5** Change ?RTMVM to the IBM RTM virtual machine.

**Step 6** Change ?STRTINST to **Yes** to start the VM data server automatically after completing the installation.



If you select **No**, do not start the VM data server automatically, you must manually start the VM data server after completing the installation. To manually start the VM data server, see “Starting the VM Data Server” on page B-9.

## Task12—Creating a Job to FTP the VM Installation Files to a VM System

**Summary:** In this task, you will FTP the VM installation files to a VM system.

To FTP the files to a VM system, complete the following steps:

**Step 1** Select *hilevel.BBSAMP* member MMLFTPVM.

A sample of the member is shown in Figure 3-15.

**Figure 3-15 Sample BBSAMP Member MMLFTPVM**

```

/*-----
/*
/*  Change log:
/*
/*      Created by ?USER on ?DATE at ?TIME
/*
/*-----
//STEP1  EXEC PGM=FTP,PARM='(EXIT',REGION=2048K
//SYSPRINT DD SYSOUT=*
//OUTPUT  DD SYSOUT=*
//INPUT   DD *
?RMTHOST
?USERNAME
?PASSWORD
TYPE E
MODE B
cd ?USERNAME 191
ACCT ?DISKPASS
LCD '?BBCHILV.UBBSAMP'
PUT MMLVINST mmlvinst.exec.a
LCD '?BBCHILV.RPMS'
PUT MMLUVCMS mmluvcms.vmarc.a
QUIT
/*
***** Bottom of Data *****

```

**Step 2** Copy the member to *hilevel.UBBSAMP*.

**Step 3** Change ?RMTHOST to the host name of the VM data server.

**Step 4** Change ?USERNAME to MMLVSRV. MMLVSRV is the default VM data server userid. If you did not specify MMLVSRV in the previous task, use the VM userid that you defined.

**Step 5** Change ?PASSWORD to the valid password of the VM data server virtual machine.

- Step 6** If you have a multi-write password on the destination VM data server (MMLVSRV) 191 minidisk, change ?DISKPASS to the multi-write password.
- If you only have a write password on the destination VM data server (MMLVSRV) 191 minidisk, change ?DISKPASS to the write password.
- If a password is not needed, delete the entire ACCT ?DISKPASS line.

- Step 7** Save the job.

**Note:** You will need to submit the job after you create the MMLVSRV data server userid on VM (see “Installing the VM Data Server” on page 3-36).

## Installing the Linux Data Server on a Linux System

Whether you use AutoCustomization or manual customization to customize MAINVIEW for Linux – Servers, you must install the Linux data server on all of the Linux systems you wish to monitor.

### Before You Begin

You must FTP the Linux data server RPM package to the Linux system where you wish to install the data server (see “Task 10—Creating a Job to FTP the Data Server Installation Files to a Linux System” on page 3-28).

**Note:** You must be logged in as root to complete this task.

### Installing the Linux Data Server

Once the Linux data server RPM package is on the Linux System, type the following command as root user on the Linux system to install the data server:

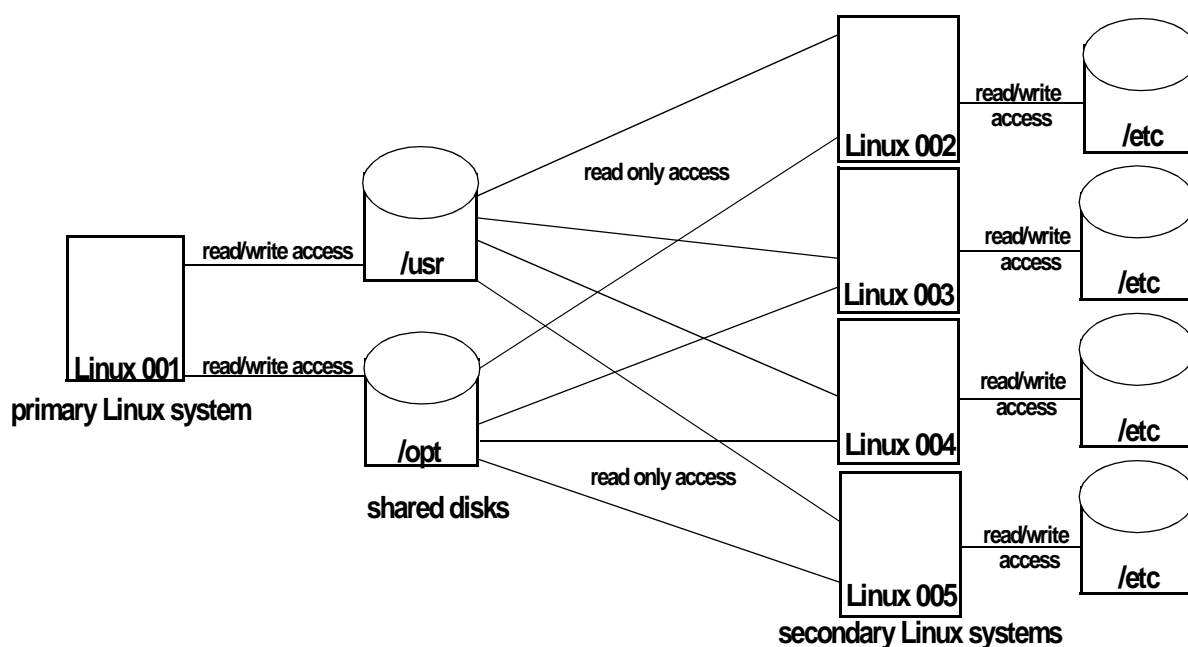
```
/tmp/mmldinst [-v]
```

**Note:** The parameter, -v (verbose), is optional. It allows you to view the installation progress.

## Sharing an Installation Across Multiple Linux Systems

If you share a single installation across several Linux systems that share files from a primary Linux system, you must run a second command on all of the secondary Linux systems. A primary Linux system is a system that owns the shared disks. The primary Linux system has read/write access to the disks. The secondary Linux systems are systems that have read only access to the shared disks. For an illustration of the primary and secondary Linux systems, see Figure 3-16 on page 3-34.

**Figure 3-16 Primary and Secondary Linux Systems**



To set up each secondary Linux system to share the data server installation, after you have installed the data server on the primary Linux system, complete the following steps:

**Step 1** Type the following command on each Linux system:

```
/opt/BMCS/mml/mmludins.sh
```

**Step 2** Restart each Linux system.

**Note:** It is necessary to restart each Linux system because the updates to the read-only disks cannot be detected by the secondary Linux systems, until each Linux system is restarted.

## Editing the Linux Data Server Parameters

You have the ability to change the current host name and port number of the communication server and the Run-As-User name. For example, if you move the location of your communication server, you will need to update the host name and/or port number.

From a Linux system, complete the following steps:

- Step 1** Log in as root.
- Step 2** Type `mmldsrv edit`.
- Step 3** At the prompt, type the number of one of the options described in Table 3-8.

**Table 3-8** Linux Data Server Parameters

Option Number	Description
1	host name of the communication server (alphanumeric)
2	port number of the communication server (numeric)
3	run-as-user name (ID)(alphanumeric)

- Step 4** Enter the new host name, port number, or user name.
- Step 5** Repeat Step 3 and Step 4 for each parameter you want to change.
- Step 6** When you are finished updating the parameters, type `q` to quit.

## Uninstalling the Linux Data Server

To uninstall the Linux data server, from the Linux system, complete the following steps:

**Note:** This will stop the Linux data server and data collector processes.

- Step 1** Log in as root.
- Step 2** Type `/opt/BMCS/mml/mmludinu.sh`
- Step 3** Type `rpm -e package_name`

where *package\_name* indicates the RPM package name. For example, the package name for MAINVIEW for Linux – Servers version 1.2 is `bmcmmml-1.2-0`.

**Note:** To get the exact package name, type the following command on the Linux system:

```
rpm -q -a | grep -i bmcmmml
```

## Installing the VM Data Server

Whether you use AutoCustomization or manual customization to customize MAINVIEW for Linux – Servers, you must install the VM data server on the VM systems where Linux is running in order to view VM data.

**Note:** There must be at least one Linux system running on the VM system in order to view VM performance data and the data server must be running on Linux. RTM from IBM is required to view VM performance data.

In this task, you will install the VM data server on the z/VM system where your Linux systems are running.

**Step 1** Define the userid of the virtual machine where the data server is to run. You can either use a user directory maintenance program, such as DirMaint, or define it manually. A sample user directory is shown in Figure 3-17 on page 3-37.

**Figure 3-17 Sample of the MMLVSRV User Virtual Machine Directory**

```

USER MMLVSRV password 64M 99M BEG
*-----
* Sample directory entry for MAINVIEW for Linux
* VM Data Server virtual machine
*-----
* NOTE:
* Class "B" is required for XAUTOLOG of Linux
* virtual machines.
*-----
OPTION QUICKDSP
MACHINE ESA
SHARE RELATIVE 300
IPL CMS
CONSOLE 0009 3215 OP
SPOOL 000C 2540 READER *
SPOOL 000D 2540 PUNCH A
SPOOL 000E 1403 A
LINK MAINT 190 190 RR
LINK MAINT 19D 19D RR
LINK MAINT 19E 19E RR
*-----
* Run-time mdisk for log files, etc.
*-----
MDISK 191 3390 start-cyl 10 volser MR rpass wpass mpass
*-----
* Code repository mdisk
*-----
MDISK 120 3390 start-cyl 10 volser MR rpass wpass mpass
***** Bottom of Data *****

```

**Note:** Minidisk 120 is intended as a repository for the data server code and the associated files.

- Step 2** Transfer the installation files using the job you created in “Task 11—Customizing the MAINVIEW for Linux – Servers VM Data Server Installation Script” on page 3-30 to the MMLVSRV userid.
- Step 3** Log on to MMLVSRV (or the VM data server userid created in a Step 1 on page 3-36) on z/VM.
- Step 4** Run the install procedure by issuing the following command:

**mmlvinst**

This will run the VMARC utility program, which you need to have installed on your system. It will also customize the installation using the VM data server options you provided during a previous customization step (see “Task 11—Customizing the MAINVIEW for Linux – Servers VM Data Server Installation Script” on page 3-30).

**Note:** The VMARC utility can be downloaded from the VM Download Library (<http://www.vm.ibm.com/download/>), if you do not already have it.

You should now have all of the required files on your 120 minidisk, and they should all be in the original format. Table 3-9 lists the required files.

**Table 3-9 Required Files**

<b>CMS Filename</b>	<b>Contents</b>
MMLVSRV MODULE	data server module
LSCRTL LOADLIB	run-time library
MMLVSRV INI	data server parameter file
MMLVSRV EXEC	data server start/stop EXEC
MMLAVVnn EXEC	REXX programs used by the data server
MMLVPROF EXEC	sample PROFILE EXEC for the data server
MMLVSRV DIRECT	sample CP Directory entry
MMLVINST EXEC	executable to unpack and customize the VMARC file

- Step 5** Start operation of the VM data server with the following command (unless it was started automatically by MMLVINST):

**mmlvsrv start**

- Step 6** Disconnect from the VM data server virtual machine by typing the following command:

**cp disc**

- Step 7** You may place a copy of MMLVSRV EXEC on a disk which is accessible by the system operator to control the data server virtual machine. With access to MMLVSRV EXEC, you may stop the data server by issuing the following command:

**mmlvsrv stop**

**Note:** The OP parameter on the CONSOLE statement of the MMLVSRV user virtual machine user directory, shown in Figure 3-17 on page 3-37, causes the primary system operator to be the secondary console for the MMLVSRV virtual machine.

- Step 8** Add the VM data server virtual machine to your system startup procedures. The system startup procedure is usually AUTOLOG1.



# Uninstalling the VM Data Server

To uninstall the VM data server, from a Linux system, complete the following steps:

- Step 1** Remove the VM user ID (MMLVSRV) using your site-specific procedure for managing VM user IDs.
- Step 2** Take the user ID out of the system startup procedure. The system startup procedure is usually AUTOLOG1.



# Appendix A    Adding New Linux Systems To Be Monitored

MAINVIEW for Linux – Servers is able to monitor up to 500 Linux systems per each Product Address Space (PAS) on z/OS and communication server (RTServer). If you need to monitor more than 500 Linux systems, you must create and start one PAS and one communication server for each set of 500 Linux systems.

This appendix discusses the following topics:

Adding Additional Linux Images . . . . .	A-2
Adding a New Communication Server . . . . .	A-4
Adding a New PAS . . . . .	A-6
Creating or Updating the Data Server ini File . . . . .	A-7

## Adding Additional Linux Images

The communication server determines which PAS monitors each Linux system. Each Linux system runs a process called a data server which points to the communication server using the `mmldsrv.ini` file parameters. Each PAS has its own `SYSIN` data set that points to the communication server (host name and port number). The PAS automatically discovers any Linux system data server connected to its communication server.

**Note:** These instructions describe how to set up one Linux system. You must replicate this information to each new Linux system you want to monitor. BMC Software recommends you use the method that you currently use to replicate applications or files to multiple Linux images (see “Sharing an Installation Across Multiple Linux Systems” on page 3-34).

To add new Linux systems to be monitored, you must do all of the following tasks:

- add a new communication server
- add a new PAS
- create an ini file

Figure A-1 One PAS Monitoring Up to 500 Linux Images

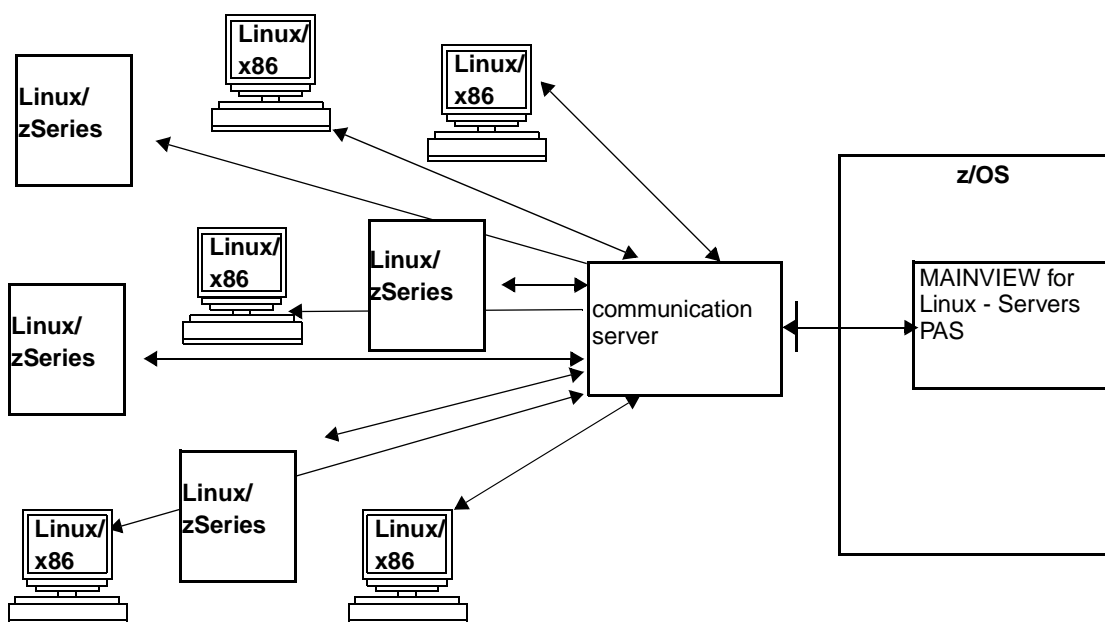
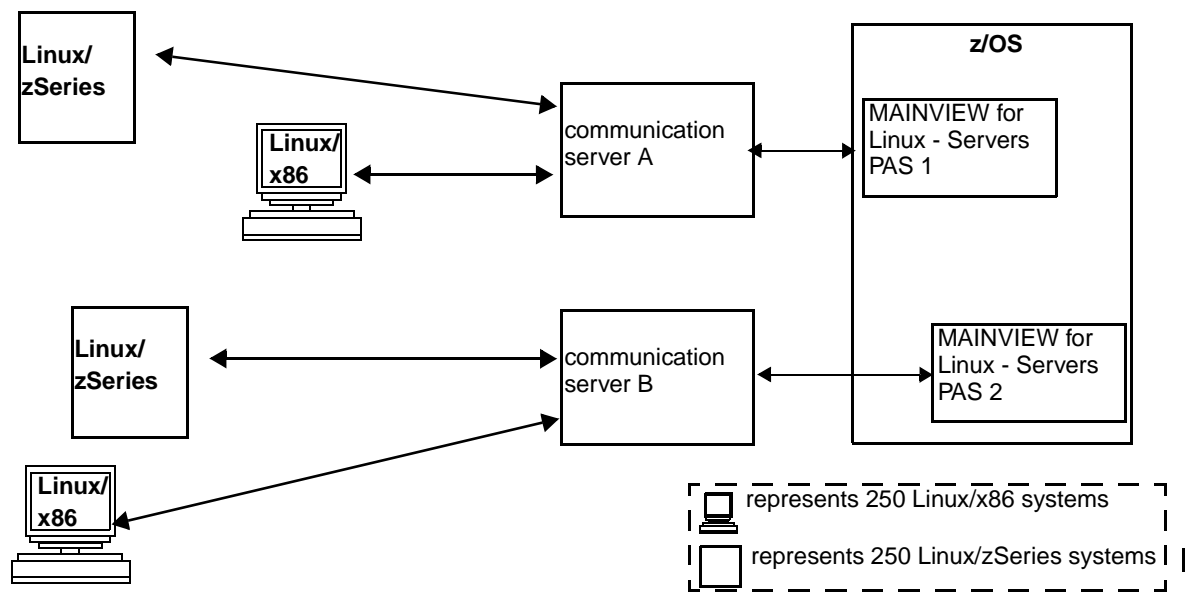


Figure A-2 Multiple PAS Monitoring Over 500 Linux Images



## Adding a New Communication Server

Each new communication server must have its own *rthome* data sets.

To add a new communication server, complete the following steps:

**Step 1** Select *hilevel.BBSAMP* member RTSRVJCL.

A sample of the member is shown in Figure A-3.

**Figure A-3** Sample BBSAMP Member RTSRVJCL

```

/*-----
/*
/*  Change Log:
/*
/*      Created by ?USER on ?DATE at ?TIME
/*
/*-----
/*-----
/*RTSERVER PROC HLQ=?BBCHILV',
/*      PRM=' ',
/*      ENV=?RTHOME=?RTHOME'
/*
/* Note: "stderr" in the PARM statement below must be in lower case
/*
/*RTSERVER EXEC PGM=RTSERVER,TIME=1440,REGION=0M,
/* PARM=?PRM &ENV =RTTIMESTAMPOUTPUT=1 =RTDEBUGFILENAME=stderr'
/*
/*STEPLIB DD DISP=SHR,DSN=?HLQ..PGMLIB
/*      DD DISP=SHR,DSN=?HLQ..BBLINK
/*RTSLIB DD DISP=SHR,DSN=?HLQ..PGMLIB
/*MSGFILE DD DISP=SHR,DSN=?HLQ..STDTEXT(MESSAGE)
/*
/*SYSTEM DD SYSOUT=?,DCB=(RECFM=VBA,LRECL=137)
/*SYSPRINT DD SYSOUT=?,DCB=(RECFM=VBA,LRECL=137)
/*STDOUT DD SYSOUT=?,DCB=(RECFM=VBA,LRECL=137)
/*STDERR DD SYSOUT=?,DCB=(RECFM=VBA,LRECL=137)
/*SRVOUT DD SYSOUT=?,DCB=(RECFM=VBA,LRECL=137)
/*RTSERVER DD SYSOUT=?,DCB=(RECFM=VBA,LRECL=137)
***** Bottom of Data *****

```

**Step 2** Copy the member to *hilevel.UBBSAMP* as RTSRV2 or another unused member name.

**Step 3** Change ?BBCHILV to the high-level qualifier of the product libraries.

**Step 4** Change ?RTHOME to a high-level qualifier, such as MVLNX.RTHOME2 (*rthome2*).

**Warning!** Multiple communication servers cannot share the same *rthome* high-level qualifier.

**Note:** The *rthome* high-level qualifier can be a maximum of two levels.

**Step 5** Allocate two new data sets at the *rthome2* high-level qualifier:

- *rthome2.STANDARD.CM*
- *rthome2.STANDARD.TXT*

- Step 6** Copy all members from *hilevel.STDCM* to *rthome2.STANDARD.CM*.
- Step 7** Copy all members from *hilevel.STDTXT* to *rthome2.STANDARD.TXT*.
- Step 8** In *rthome2.STANDARD.CM*, rename RTSRVCM member to RTSERVER.

**Figure A-4 Example of *rthome2.STANDARD.CM* RTSERVER Member**

```
***** Top of Data *****
setopt default_protocols tcp
setopt conn_names tcp
setopt server_names UNKNOWN
setopt max_client_conns 512
setopt conn_names tcp:_node:5101
***** Bottom of Data *****
```

- Step 9** In *rthome2.STANDARD.CM* data set RTSERVER member, change the following statement (see Figure A-4) to point to an unused port number:

**setopt conn\_names tcp:\_node:5101**

**Note:** If you are adding new Linux systems, port 5101 will already be in use. Change the number to an unused port number, for example 5102.

- Step 10** Copy *hilevel.UBBSAMP* member RTSRV2 to your system procedure library as member RTSEVR2 (or choose another procedure name).
- Step 11** Edit the *rthome2.STANDARD.CM* data set TCPNAME member to contain the name of the TCP/IP address space.
- Step 12** Add the new procedure name to your system startup parameter library (for example, SYS1.PARMLIB(COMMNDxx)).

## Adding a New PAS

There are several data sets allocated for each PAS. Some data sets can be shared among PASs. The others cannot be shared. Table A-1 describes the data sets that are allocated for each PAS.

**Table A-1 Data Sets Allocated for Each PAS**

Data set	Shared or Not Shared	Description
BBIPARM	shared	various customized MAINVIEW parameters
BBSECURE	shared	customized MAINVIEW view/action security resource specifications
BMCPSWD	shared	product license authorization password
SYSIN	not shared	startup/initialization parameters. The SYSIN data set cannot be shared. You must allocated a new one for each new PAS.
MMLDATA	shared	monitor rules These rules are updated by the ADLRULER and ADLRULDR views. For more information on these views see the <i>MAINVIEW for Linux – Servers User Guide</i> .
MMLIMAGE	not shared	list of automatically discovered Linux systems

**Step 1** Copy hilevel.UBBPARM member MMLPRM00 (for example, MMLPRM02).

**Step 2** Change or add the following parameters in MMLPRMxx:

- SUBSYSID=*PAS ssid (MML2 or choose another subsystem ID)*
- COMMHOST=*Communication Server host name of the new communication server you created* (see “Adding Additional Linux Images” on page A-2)
- COMMPORT=*Communication Server port number of the new communication server you created* (see “Adding Additional Linux Images” on page A-2)

**Figure A-5 Example SYSIN Data Set**

```
SUBSYSID=MML2,
COMMHOST=SYSB,
COMMPORT=5102,
END
```

**Step 3** Allocate a new image data set (see “Task 5—Allocating the MAINVIEW for Linux – Servers Image Data Set” on page 3-17).



- Step 4** Using the current PAS (MMLPAS) started task procedure as an example, create another procedure where the SYSIN DD statement points to the new MMLPRMxx member created in Step 1 and the MMLIMAGE DD statement points to the new image data set that you allocated in Step 3.
- Step 5** Add the new PAS procedure to your system startup parameter library (for example, SYS1.PARMLIB(COMMNDxx).
- Step 6** Start the MAINVIEW for Linux – Servers PAS (see Appendix B, “Managing the Components”).
- Step 7** Start the communication server (see Appendix B, “Managing the Components”).
- Step 8** Start the data servers (see Appendix B, “Managing the Components”).

## Creating or Updating the Data Server ini File

Once you add a new communication server to monitor your new Linux systems, you need to update the data server ini file (mmldsrv.ini) to point to the new communication server (RTServer) host name and port number that you specified in Step 2 of “Adding a New PAS.” For more information on how to update the data server ini file, see “Creating or Updating the Linux Data Server ini File” on page B-7.



---

# Appendix B Managing the Components

MAINVIEW for Linux – Servers uses the following components to collect and display information about the monitored Linux systems:

- MAINVIEW for Linux – Servers Product Address Space (PAS)
- communication server
- Linux data server
- data collector
- VM data server
- RTM by IBM

Occasionally, you may need to start or stop one or more of these components.

This appendix discusses the following topics:

Managing the MAINVIEW for Linux – Servers PAS .....	B-2
Starting the MAINVIEW for Linux – Servers PAS .....	B-2
Stopping the MAINVIEW for Linux – Servers PAS .....	B-3
Managing the Communication Server .....	B-3
Starting the Communication Server .....	B-3
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Creating or Updating the Linux Data Server ini File .....	B-7
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Servicing or Upgrading the VM Data Server .....	B-10
Creating or Updating the VM Data Server ini File .....	B-11

## Managing the MAINVIEW for Linux – Servers PAS

MAINVIEW for Linux – Servers PAS runs as a z/OS subsystem. The PAS requests data from the monitored Linux systems as views are displayed. You must start the MAINVIEW for Linux – Servers PAS to display data in the views.

### Starting the MAINVIEW for Linux – Servers PAS

To start the MAINVIEW for Linux – Servers PAS, complete the following steps:

**Step 1** Verify that the JCL used to start the MAINVIEW for Linux – Servers PAS has been created (see “Task 8—Creating the MAINVIEW for Linux – Servers Product Address Space (PAS) JCL Startup Procedure” on page 3-23).

**Step 2** Verify the procedure name.

**Step 3** From the z/OS operator console, enter the START command:

*START procname*

**Step 4** Look for the following console messages that verify a successful MAINVIEW for Linux – Servers PAS initialization:

```
BMC285010I MAINVIEW for Linux PAS initialization
completed.
BMC285021I MAINVIEW for Linux connection to CAS has been
established.
```

## Stopping the MAINVIEW for Linux – Servers PAS

Once the MAINVIEW for Linux – Servers PAS is operational, you may want to stop it for some reason. To stop the MAINVIEW for Linux – Servers PAS, complete the following steps:

**Step 1** Verify the procedure name for the MAINVIEW for Linux – Servers PAS you want to stop.

**Step 2** From the z/OS operator console, enter the STOP command:

**P** *procname*

Or, you can enter the PAS SHUTDOWN command from the z/OS operator console:

*subsystemname* SHUTDOWN

**Note:** BMC Software recommends using the STOP command or the PAS SHUTDOWN command rather than the CANCEL command to stop the MAINVIEW for Linux – Servers PAS.

## Managing the Communication Server

The communication server provides the capability of passing messages between MAINVIEW for Linux – Servers PAS and the data servers of the Linux images that it is monitoring. The communication server is also known as the RTServer.

## Starting the Communication Server

To start the communication server, complete the following steps:

**Step 1** Verify that the JCL used to start the communication server has been created (see “Creating the RTserver JCL Startup Procedure” on page 3-9).

**Step 2** Verify the procedure name.

**Step 3** From the z/OS operator console, enter the START command:

**START** *procname*

**Step 4** Look for the following console messages that verify a successful communication server initialization:

```
TAL1091I Creating conns to accept connections on
TAL1092I Creating conn <tcp> to listen for connections
TAL1300I Connecting to other RTserver processes
TAL1301I The option server_names is UNKNOWN: cannot
connect to other RTservers.
TAL1198I RTserver started successfully
```

## Stopping the Communication Server

To stop the communication server, complete the following steps:

**Step 1** Verify the procedure name for the communication server that you want to stop.

**Step 2** From the z/OS operator console, enter the STOP command:

**P** *procname*

## Managing the Linux Data Server

A data server resides on each monitored Linux image. The Linux data server sends data that is provided by the data collector to the MAINVIEW for Linux – Servers PAS through the communication server.

## Starting the Linux Data Server

To start the Linux data server, complete the following steps:

**Step 1** Login to the Linux system as root.

**Step 2** From the Linux system, enter the following command:

**mmldsrv start**

**Note:** The data server writes log messages to a the mmldsrv.log file in the /var/BMCS/mml directory.

## Stopping the Linux Data Server

To stop the Linux data server, complete the following steps:

- Step 1** Login to the Linux system as root.
- Step 2** From the Linux system, enter the following command:

```
mmldsrv stop
```

## Servicing or Upgrading the Linux Data Server

This section describes how to service or upgrade a Linux data server. The procedures to upgrade or service a Linux data server vary if you have a shared Linux installation or a non-shared Linux installation. For more information on a shared Linux installation, see “Sharing an Installation Across Multiple Linux Systems” on page 3-34.

### Servicing or Upgrading a Shared Linux Data Server

To service or upgrade the Linux data server on a shared Linux installation, complete the following steps:

- Step 1** FTP the Linux data server files by running the job that you created in “Task 10—Creating a Job to FTP the Data Server Installation Files to a Linux System” on page 3-28.
- Step 2** Stop the Linux data servers on the primary and all of the secondary Linux systems (see “Stopping the Linux Data Server” on page B-5).
- Step 3** Login as root to the primary Linux system.
- Step 4** Enter the following commands:

```
rpm -e package_name
```

where *package\_name* indicates the RPM package name. For example, the package name for MAINVIEW for Linux – Servers version 1.2 is `bmcmmml-1.2-0`.

```
rpm -i /tmp/file_name
```

where *file\_name* indicates the correct file name of the Linux distribution that you are running (see Table B-1).

See “Task 10—Creating a Job to FTP the Data Server Installation Files to a Linux System” on page 3-28 for more information.

**Table B-1 File Names**

File Name	Distribution
MMLUDZS0	SuSE Linux Enterprise Server for S/390 (2.2.16)
MMLUDZS2	SuSE Linux Enterprise Server 7.0 for S/390 and zSeries (2.4.7)
MMLUDZR2	Red Hat Linux 7.2 for S/390 (2.4.9)
MMLUDIS0	SuSE Linux 7.0 for Intel (2.2.16)
MMLUDIS3	SuSE 7.3 for Intel (2.4.10)
MMLUDIR2	Red Hat Linux 7.2 for Intel (2.4.7)

**Step 5** Type the following command from the primary and secondary Linux systems as root user:

**`/opt/BMCS/mml/mmludins.sh`**

**Step 6** Restart all of the Linux systems.

**Note:** It is necessary to restart each Linux system because the updates to the read-only disks cannot be detected by the secondary Linux systems, until each Linux system is restarted.

## Servicing or Upgrading a Non-Shared Linux Data Server

To service or upgrade the Linux data server on a non-shared Linux installation, complete the following steps:

**Step 1** FTP the Linux data server files by running the job that you created in “Task 10—Creating a Job to FTP the Data Server Installation Files to a Linux System” on page 3-28.

**Step 2** Log in as root.

**Step 3** Stop the data server on the Linux system (see “Stopping the Linux Data Server” on page B-5).



**Step 4** Enter the following commands:

**4.A** `rpm -e package_name`

where *package\_name* indicates the RPM package name. For example, the package name for MAINVIEW for Linux – Servers version 1.2 is bmcmm1-1.2-0.

**4.B** `rpm -i /tmp/file_name`

where *file\_name* indicates the correct file name of the Linux distribution that you are running (see Table B-1).

See also “Task 10—Creating a Job to FTP the Data Server Installation Files to a Linux System” on page 3-28 for more information.

**Step 5** Type the following command from the Linux system:

`/opt/BMCS/mml/mmludins.sh`

**Step 6** Enter the following command to start the Linux data server:

`mmldsrv start`

## Creating or Updating the Linux Data Server ini File

To create or update the mmldsrv.ini file, complete the following steps:

**Step 1** Log in as root.

**Step 2** Type `mmldsrv edit`.

**Step 3** At the prompt, type the number of one of the options described in Table 2-2.

**Table 2-2 Linux Data Server Parameters**

Option Number	Description
1	host name of the communication server (alphanumeric)
2	port number of the communication server (numeric)
3	run-as-user name (ID)(alphanumeric)

**Step 4** Enter the new host name, port number, or user name.

**Step 5** Repeat Step 3 and Step 4 for each parameter you want to change.

- Step 6** When you are finished updating the parameters, type **q** to quit.
- Step 7** Start the Linux data server. For more information, see “Starting the Linux Data Server” on page B-4.

## Managing the Data Collector

A data collector resides on each monitored Linux image. Each data collector gathers data from the monitored Linux image and provides the data to the Linux data server, which sends the data to the MAINVIEW for Linux – Servers PAS through the communication server.

The data collector is automatically started and stopped by the Linux data server (see “Starting the Linux Data Server” on page B-4).

## Stopping the Data Collector

The data collector is controlled by the Linux data server. The data collector automatically stops shortly after the Linux data server stops. If you must manually stop the data collector, complete the following steps:

- Step 1** Login to the Linux system as root.
- Step 2** From the Linux system, enter the following command to obtain the data collector process id:

```
ps -ef | grep bgscollect
```

- Step 3** Obtain the process ID for the data collector.

- Step 4** Enter the following command:

```
kill -HUP pid
```

where *pid* is the bgscollect process ID.

# Managing the VM Data Server

A VM data server resides on each VM system which has Linux virtual machines running on it. Each VM data server obtains data from RTM by IBM and sends the data to the MAINVIEW for Linux – Servers PAS through the communication server.

You can specify an optional parameter to the MMLVSRV command. Table B-3 on page B-9 describes the functions of each of these parameters.

**Table B-3 MMLVSRV Parameters**

Command and Parameter	Description
mmlvsrv start [userid]	starts the VM data server
mmlvsrv stop [userid]	stops the VM data server
mmlvsrv edit	allows you to edit the VM data server ini file
mmlvsrv status [userid]	allows you to verify that the VM data server user ID is logged on

## Starting the VM Data Server

To start the VM data server, complete one of the following procedures.

- Enter the following command from the VM system operator console or from the MMLVSRV (default data server) virtual machine console:

**mmlvsrv start [userid]**

where *userid* is the userid of the virtual machine that is running the VM data server. The *userid* parameter is optional.

**Note:** The MMLVSRV EXEC must be on a disk that is accessible by the system operator.

- If MMLVSRV VM data server userid is not logged on, type the following command from the operator console:

**XAUTOLOG *userid***

## Stopping the VM Data Server

To stop the VM data server, complete one of the following procedures.

- Enter the following command from the VM system operator console:

**mmlvsrv stop [userid]**

where *userid* is the userid of the virtual machine that is running the VM data server. The *userid* parameter is optional.

**Note:** The MMLVSRV EXEC must be on a disk that is accessible by the system operator.

- Enter the following command from the data server virtual machine operator console:

**mmlstop**

- Enter the following command from a Single Console Image Facility (SCIF) console:

**CP SEND MMLVSRV mmlstop**

## Servicing or Upgrading the VM Data Server

To service or upgrade the VM data server, complete the following steps:

- Step 1** Stop the VM data server. See “Stopping the VM Data Server” on page B-10.
- Step 2** Verify the VM data server virtual machine is logged off.
- Step 3** FTP the following files by running the job that was created in “Task 11—Customizing the MAINVIEW for Linux – Servers VM Data Server Installation Script” on page 3-30:

- *hilevel.BBSAMP* member MMLVINST
- *hilevel.RPMS* member MMLUVCMS

For more information on how to FTP the files, see “Task 11—Customizing the MAINVIEW for Linux – Servers VM Data Server Installation Script” on page 3-30.

- Step 4** Log on to the VM data server virtual machine userid (MMLVSRV) that is running the data server, but do not start it.

- Step 5** Run the VM install procedure, see “Installing the VM Data Server” on page 3-36.
- Step 6** Start the VM data server, see “Starting the VM Data Server” on page B-9.

## Creating or Updating the VM Data Server ini File

To create or update the VM data server ini file, complete the following steps:

- Step 1** Stop the VM data server, see “Stopping the VM Data Server” on page B-10.
- Step 2** Log on to MMLVSRV virtual machine userid.
- Step 3** Type `mmlvsrv edit`.
- Step 4** At the prompt, enter the number of one of the options described in Table B-4.

**Table B-4** VM Data Server Parameters

Option Number	Description
1	host name of the communication server (alphanumeric)
2	port number of the communication server (numeric)
3	RTM virtual machine userid

- Step 5** Enter the new host name, port number, or RTM virtual machine userid.
- Step 6** Repeat Step 4 and Step 5 for each parameter you want to change.
- Step 7** When you are finished updating the parameters, type `q` to quit.
- Step 8** Start the VM data server. For more information, see “Starting the VM Data Server” on page B-9.



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**SUPPORT.** If Your order includes support for the Software, then BMC agrees to provide support (24 hours a day/7 days a week) ("Support"). You will be automatically re-enrolled in Support on an annual basis unless BMC receives notice of termination from You as provided below. There is a free support period during the one year warranty period.

(a) **Support Terms.** BMC agrees to make commercially reasonable efforts to provide the following Support: (i) For malfunctions of supported versions of the Software, BMC provides bug fixes, patches or workarounds in order to cause that copy of the Software to operate in substantial conformity with its then-current operating specifications; and (ii) BMC provides new releases or versions, so long as such new releases or versions are furnished by BMC to all other enrolled Support customers without additional charge. BMC may refuse to provide Support for any versions or releases of the Software other than the most recent version or release of such Software made available by BMC. Either party may terminate Your enrollment in Support upon providing notice to the other at least 30 days prior to the next applicable Support anniversary date. If You re-enroll in Support, BMC may charge You a reinstatement fee of 1.5 times what You would have paid if You were enrolled in Support during that time period.

(b) **Fees.** The annual fee for Support is 20% of the Software's list price less the applicable discount or a flat capacity based annual fee. BMC may change its prices for the Software and/or Support upon at least 30 days notice prior to Your support anniversary date.

**VERIFICATION.** If requested by BMC, You agree to deliver to BMC periodic written reports, whether generated manually or electronically, detailing Your use of the Software in accordance with this Agreement, including, without limitation, the License Capacity. BMC may, at its expense, audit Your use of the Software to confirm Your compliance with the Agreement. If an audit reveals that You have underpaid fees, You agree to pay such underpaid fees. If the underpaid fees exceed 5% of the fees paid, then You agree to also pay BMC's reasonable costs of conducting the audit.

**EXPORT CONTROLS.** You agree not to import, export, re-export, or transfer, directly or indirectly, any part of the Product or any underlying information or technology except in full compliance with all United States, foreign and other applicable laws and regulations.

**GOVERNING LAW.** This Agreement is governed by the substantive laws in force, without regard to conflict of laws principles: (a) in the State of New York, if you acquired the License in the United States, Puerto Rico, or any country in Central or South America; (b) in the Province of Ontario, if you acquired the License in Canada (subsections (a) and (b) collectively referred to as the "**Americas Region**"); (c) in Singapore, if you acquired the License in Japan, South Korea, Peoples Republic of China, Special Administrative Region of Hong Kong, Republic of China, Philippines, Indonesia, Malaysia, Singapore, India, Australia, New Zealand, or Thailand (collectively, "**Asia Pacific Region**"); or (d) in the Netherlands, if you acquired the License in any other country not described above. The United Nations Convention on Contracts for the International Sale of Goods is specifically disclaimed in its entirety.

**ARBITRATION. ANY DISPUTE BETWEEN YOU AND BMC ARISING OUT OF THIS AGREEMENT OR THE BREACH OR ALLEGED BREACH, SHALL BE DETERMINED BY BINDING ARBITRATION CONDUCTED IN ENGLISH. IF THE DISPUTE IS INITIATED IN THE AMERICAS REGION, THE ARBITRATION SHALL BE HELD IN NEW YORK, U.S.A., UNDER THE CURRENT COMMERCIAL OR INTERNATIONAL, AS APPLICABLE, RULES OF THE AMERICAN ARBITRATION ASSOCIATION. IF THE DISPUTE IS INITIATED IN A COUNTRY IN THE ASIA PACIFIC REGION, THE ARBITRATION SHALL BE HELD IN SINGAPORE, SINGAPORE UNDER THE CURRENT UNCITRAL ARBITRATION RULES. IF THE DISPUTE IS INITIATED IN A COUNTRY OUTSIDE OF THE AMERICAS REGION OR ASIA PACIFIC REGION, THE ARBITRATION SHALL BE HELD IN AMSTERDAM, NETHERLANDS UNDER THE CURRENT UNCITRAL ARBITRATION RULES. THE COSTS OF THE ARBITRATION SHALL BE BORNE EQUALLY PENDING THE ARBITRATOR'S AWARD. THE AWARD RENDERED SHALL BE FINAL AND BINDING UPON THE PARTIES AND SHALL NOT BE SUBJECT TO APPEAL TO ANY COURT, AND MAY BE ENFORCED IN ANY COURT OF COMPETENT JURISDICTION. NOTHING IN THIS AGREEMENT SHALL BE DEEMED AS PREVENTING EITHER PARTY FROM SEEKING INJUNCTIVE RELIEF FROM ANY COURT HAVING JURISDICTION OVER THE PARTIES AND THE SUBJECT MATTER OF THE DISPUTE AS NECESSARY TO PROTECT EITHER PARTY'S CONFIDENTIAL INFORMATION, OWNERSHIP, OR ANY OTHER**

**PROPRIETARY RIGHTS. ALL ARBITRATION PROCEEDINGS SHALL BE CONDUCTED IN CONFIDENCE, AND THE PARTY PREVAILING IN ARBITRATION SHALL BE ENTITLED TO RECOVER ITS REASONABLE ATTORNEYS' FEES AND NECESSARY COSTS INCURRED RELATED THERETO FROM THE OTHER PARTY.**

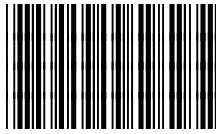
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**MISCELLANEOUS TERMS.** You agree to pay BMC all amounts owed no later than 30 days from the date of the applicable invoice, unless otherwise provided on the order for the License to the Products. You will pay, or reimburse BMC, for taxes of any kind, including sales, use, duty, tariffs, customs, withholding, property, value-added (VAT), and other similar federal, state or local taxes (other than taxes based on BMC's net income) imposed in connection with the Product and/or the Support. This Agreement constitutes the entire agreement between You and BMC and supersedes any prior or contemporaneous negotiations or agreements, whether oral, written or displayed electronically, concerning the Product and related subject matter. No modification or waiver of any provision hereof will be effective unless made in a writing signed by both BMC and You. You may not assign or transfer this Agreement or a License to a third party without BMC's prior written consent. Should any provision of this Agreement be invalid or unenforceable, the remainder of the provisions will remain in effect. The parties have agreed that this Agreement and the documents related thereto be drawn up in the English language. Les parties exigent que la présente convention ainsi que les documents qui s'y rattachent soient rédigés en anglais.

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## Notes



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